



Newsletter Contents

- Semiannual Facility Inspections
- Discontinuation of Bax Global as a Courier Service
- Rodent Weaning
- Murine Norovirus
- LASP Animal Facility and ASP Online Access System
- New ASP Form Template

Semiannual Facility Inspections

The ACUC recently completed the semiannual animal facility inspections for submission to the NCI-Frederick Associate Director. In general, facilities were noted to be organized, clean, and well-managed. To ensure continued success, the ACUC would like to note that the following minor deficiencies were found in multiple areas and should be kept in mind when working in the animal facility:

- Ensure the current Animal Study Proposal and SOP documents are organized and maintained in an accessible location
- Ensure that the current Animal Study Proposal number is listed on the cage card
- Ensure adherence to procedures and study endpoints that are listed in approved Animal Study Proposals
- Ensure adherence to Rodent Weaning SOP and document exceptions properly
- Ensure that applicable bottles and containers are properly labeled, dated when opened, and disposed of in a timely manner
- Ensure that watch card posting, treatment initiation, Animal Health Report submission, and LAM

veterinary notification timelines are fulfilled in accordance with policies and procedures

- Ensure that records and log sheets are kept current and posted properly
- Ensure that euthanized animals placed in the refrigerator/freezer are appropriately labeled
- Ensure that pest control measures are properly implemented in facility and vestibule areas

The ACUC would like to thank all participants and facility staff members for their cooperation during the inspections.

Discontinuation of Bax Global as a Courier Service

Due to recently reported animal welfare concerns, the Laboratory Animal Sciences Program [LASP] will no longer utilize Bax Global as a courier service for live animal shipments from the NCI-Frederick animal facilities. In an effort to facilitate animal shipments, LASP has asked that investigators communicate this information to potential collaborators for which you may ship animals to in the future. Below is a listing of LASP authorized live animal courier services if your collaborator would like to establish alternative shipping accounts in advance. Please feel free to contact Sherry Stockman-Crummitt [schells@ncifcrf.gov] if there are any questions or concerns.

- World Courier
- Air Courier Dispatch
- Marken Time Critical Express
- FedEx
- Transportech
- UPS Supply Chain Solutions
- Pilot Air Freight

- NIH Van Service [ground transportation only to NIH and surrounding areas] Direct Services [ground transportation only and services are limited to certain days of the week]

Rodent Weaning

As a friendly reminder, LASP revised its rodent weaning SOP [3.021] earlier this year. The SOP is designed to ensure that investigators take all necessary steps to prevent overcrowding in the NCI-Frederick animal facilities. **Please note that all investigators are required to comply with this SOP and this revision may impact how you utilize your cage space within the facility.** LASP recognizes that there may be circumstances that would require exemption to this SOP. You are encouraged to contact your facility manager if you would like to verify compliance or request exemption.

Murine Norovirus

Noroviruses are members of the family Caliciviridae, a non-enveloped single stranded RNA virus. Noroviruses have been associated with disease in several species including pigs, cattle, humans, and now mice. Noroviruses cause most of the non-bacterial, food-borne gastroenteritis in humans. The first murine norovirus known to infect mice (MNV-1) was identified in Rag2-/-/Stat-/- mice in 2003 (Karst et al. Science 299:1575-1578). Experimentally infected mice with impaired innate immunity (Rag2-/-/Stat-/-, Stat1-/-, Stat1-/-/Pkr-/-, and IFN α ByR-/-) were highly susceptible to MNV-1 induced lethality. Naturally exposed susceptible strains showed varying degrees of hepatitis, peritonitis, and pneumonia (Ward et al. Toxicologic Pathology 34:708-715 2006). Other immune-deficient strains such as RAG1-/-, RAG2-/-, Nu, and SCID are resistant to

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MNV-1-induced lethality although the virus infection is persistent in these mice. In immunocompetent mice, MNV-1 only causes transient infection with no clinical signs reported to date. A recent report (Hsu et al. Comparative Medicine 56:247-251 2006 and information presented at the recent American Association for Laboratory Animal Science meeting) indicates that 22 to 30% of serum samples tested from various research institutes in North America contained antibody to MNV. This makes MNV-1 the most prevalent viral pathogen infecting mice. Also 40 to 50 strains of MNV have been isolated from geographically separate mouse facilities. MNV is the only norovirus that can be grown in culture. Sequence information on 21 of these strains has been deposited in Genbank. The strains are highly related (96 to 98% diversity) and show serologic cross-reactivity.

What is the MNV Status at NCI-Frederick?

The NCI-Frederick Animal Health Diagnostic and Molecular Laboratory now has a serologic and PCR assay for screening of MNV-1. Although the number of mice tested to date is low, with the exception of the Animal Production Area and Building 1048, all other Frederick NCI-facilities are seropositive for MNV-1. Testing elsewhere has also shown that mice housed in the Bethesda facilities and those at other NIH Institutes are also seropositive. The presence of the virus in our facilities has also been confirmed by PCR.

Summary

The high level of seropositive animals detected throughout the United States indicates that the virus is well adapted to its host and has been present in mice for a number of years. Interestingly, testing of mice from approved vendors has been negative whereas as those animals maintained in a research

environment are highly positive. From information reported to date the overall biological impact of MNV-1 appears to be low and MNV-1 infections are transient and nonpathogenic except for the most severely immune-deficient mice. Susceptibility to disease is likely due to the lack of innate immune responses to infection. The general consensus from the many institutions that are positive for MNV is that there is no need to act hastily in trying to eliminate the virus, but to control spreading to highly susceptible strains by stringent husbandry procedures. Investigators need to be aware of the health status of their colonies and the confounding effect that MNV could have in the interpretation of results especially when using severely immune-deficient mouse models.

LASP Animal Facility and ASP Access System

LASP is pleased to announce the availability of its new Animal Facility and Animal Study Proposal [ASP] Access System to assist investigators with the management of his/her animal colony activities. This online system provides interested investigators with current animal inventory data in NCI animal facilities as well as an overview of active Animal Study Proposals in both Frederick and Bethesda. The goal is to promote communication between the facility and the investigative staff to ensure that records are properly maintained and to provide an online resource for investigators to make colony management decisions. Any principal investigators listed on active ASP documents [in Frederick or Bethesda] that are interested in obtaining account access to this system should send me an email at ahaltm@ncifcrf.gov. Once your account has been established, you will receive access and log-in instructions by email to begin utilizing this system. LASP

plans to expand the capabilities of the system based on user input and recommendations - so please feel free to forward your comments. We hope that you find this system to be a valuable tool for your research activities.

New ASP Form Template

Please be sure to download and utilize the latest version of the NCI-Frederick Animal Study Proposal form for all future submissions [new and renewals].

<http://web.ncifcrf.gov/rtp/lasp/intra/academic/fred/proposal.asp>

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